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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,752	09/04/2001	Mark Stewart Nichols	05222.00165	6533
29638	7590	05/31/2006	EXAMINER	
BANNER & WITCOFF, LTD. ATTORNEYS FOR CLIENT NO. 005222 10 S. WACKER DRIVE, 30TH FLOOR CHICAGO, IL 60606			BUSS, BENJAMIN J	
			ART UNIT	PAPER NUMBER
			2129	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/868,752	NICHOLS, MARK STEWART	
	Examiner	Art Unit	
	Benjamin Buss	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/10/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to an AMENDMENT entered 5/10/2006 for the patent application **09/868,752** filed 09/04/2001.

Continued Examination Under 37 CFR 1.114

- 5 A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/10/2006 has been entered.

Status of Claims

- 10 Claims 1-19 are pending.

Priority

Acknowledgment is made of applicant's claim for priority based on application 09/221,217 filed in the United States on 12/22/98.

15 ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- 20 (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9-15, and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by *Cook* (USPN 5,727,950).

Claim 1:

Cook teaches:

- 25 - (a) Receiving, by a goal based learning system, received information indicative of a goal (C5-63 especially "In an exemplary embodiment, this data subtype includes standard and criteria data, usually set by the school system, which include objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the

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student's progress in the materials, data relating to the student's use of tools in the materials, and performance data" C49 L1-20);

- 5 - (b) Determining training needs of a student from the received information (C5-63 especially "Progress data includes data necessary for the student to leave the materials and resume the materials at the prior point. Performance data 1112 relates to student's performance over several lessons in the materials and can include mean performance, weighted moving averages of performance, patterns of performance, use of hints, use of retries, and needed remediation. Using such performance data, for example, means and weighted moving averages, permits
- 10 the agent to determine whether student performance is improving or declining" C49 L1-20 and "A further important object of this invention is to utilize augmented computer-assisted instruction materials which present to students a variety of interactive, adaptive, and self-paced computer-assisted instruction and homework materials in a manner which informs the agent of a
- 15 student's progress and performance and which permits the agent to manage or control the materials to the student's pedagogic characteristics. Thereby, the ABI system can effectively guide and engage students in their educational tasks" C6 L55-65 and "The materials engine can adjust its sequence of presentation in response to student responses. At a next level, the requests
- 20 and responses exchanged between the student and the materials engine can follow several patterns known in the arts of computer based instruction and which, for example, include the following. First, the student can respond to questions presented by the materials engine, and in the course of responding, can ask for advice or hints, the use of a tool such as a calculator, or other
- 25 relevant assistance. Second, the student can advance to the next item, lesson, or unit upon successful completion of the present item, lesson, or unit. Third, in case of error, the student can request, or automatically be presented with, appropriate repeat, review, or student materials. Finally, at

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a higher level these patterns of interactions can be analyzed to provide more adaptive responses from the system." C11 L20-45);

- (c) Integrating information that motivates accomplishment of the goal for use in the presentation (C5-63 especially "The on-screen agent instructs, motivates, engages and guides its student" C5 L45-C6 L15 and "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips library, that the student finds pleasing. The agent can further make reward graphics available on the student's screen for a period of time" C14 L15-30 and "The affect further characterizes the intent of the utterance. For example, an utterance of a "congratulations" type is associated with a positive affect that can range from "happy," in cases of superior performance, to "encourage," in cases of improving but still less than average performance. The display behavior of the on-screen agent, preferably represented as one or more personae interacting with each other and the student, is strongly responsive to the affect parameter. As is known in the arts of film animation, infusing an animation with an affect or emotion gives resulting images a human and life-like quality. Such a quality is important so that the virtual tutor aspect of the ABI system engage the student in order to improve instructional results" C58 L10-45);
- (d) Evaluating progress toward the goal (C5-63 especially "In an exemplary embodiment, this data subtype includes standard and criteria data, usually set by the school system, which include objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data" C49 L1-20) and providing feedback that further motivates accomplishment of the goal (C5-63 especially "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips

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library, that the student finds pleasing. The agent can further make reward graphics available on the student's screen for a period of time. On the other hand, in the case of error the agent can point to the screen location of the error" C14 L15-30 and "in response to a previous high or increasing error rate of the student, the on-screen agent presents a meta-response 508 commenting on the pedagogic nature of the student's error. Further, it activates a persona 507 to engage the student's attention. This persona can advantageously include animation, audio, and speech output of the displayed text" C26 L35-65; Also see Figure 4) and further includes:

- o Determining how much work is correct by each concept of a plurality of concepts within a concept hierarchy to identify active pieces of remediation, the work being submitted by the student (C5-63 especially "The materials engine can adjust its sequence of presentation in response to student responses. At a next level, the requests and responses exchanged between the student and the materials engine can follow several patterns known in the arts of computer based instruction and which, for example, include the following. First, the student can respond to questions presented by the materials engine, and in the course of responding, can ask for advice or hints, the use of a tool such as a calculator, or other relevant assistance. Second, the student can advance to the next item, lesson, or unit upon successful completion of the present item, lesson, or unit. Third, in case of error, the student can request, or automatically be presented with, appropriate repeat, review, or student materials. Finally, at a higher level these patterns of interactions can be analyzed to provide more adaptive responses from the system." C11 L20-45 and "previous student interactions should be utilized. Repeated requests for hints should be noted and dealt with perhaps not with another hint but with remediation. The rate of prompts, advice, and hints should be

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adaptively adjusted on the basis of ongoing performance records" C28 L50-60 and "These schedule parameters include those controlling the tools and options available to the student while performing a given task and those requiring the student to perform background reading or remediation. Important initiative parameters include the scheduling values of task priority value and deadline. If the priority and date are not both "off", those tasks with greater priority and earlier deadline are automatically scheduled for the student. If these values are "off", the student has control of task scheduling" C29 L15-30 and "Error responses include retry policies and selection of remediation paths. Remediation can be item sequencing options given on the basis of retry outcome" C32 L50-60; *Examiner notes that a hierarchy is defined as "a series of ordered groupings of people or things within a system" (WordNet 2.1, Princeton University) and that it is clear that the system of Cook selects the ordering of remediation material based upon how much work is correct in student responses within work submitted by the student. Cook clearly teaches a system in which a student progresses and regresses within a hierarchy of educational concepts based on evaluations of the student's current and past performance.);*

- o Analyzing the active pieces of remediation within the concept hierarchy (C5-63 especially "Notations are augmented ... customized by teachers" C7 L1-20 and "An object of ... oriented database system" C7 L40-60 and "the student data ... installing new materials" C49 L40-55 and "at a higher level these patterns of interactions can be analyzed to provide more adaptive responses from the system." C11 L20-45);
- o Selecting a plurality of the active pieces of remediation for delivery (C5-63 especially "Generally, agent behavior ... several instructional sessions" C58 L10-45 and "Error responses include retry policies and selection of

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remediation paths. Remediation can be item sequencing options given on the basis of retry outcome" C32 L50-60 and "sequencing defined by performance to criterion on individual item subtypes" C32:20-30 and "in case of error, the student can request, or automatically be presented with, appropriate repeat, review, or remediation materials" C11:25-45 "remediation" C28:50-60; Also see Fig. 4 and Fig. 5);

- o Assembling the plurality of the active pieces of remediation into a cohesive unit of feedback (C5-63 especially "A further important...student's pedagogic characteristics" C6 L55-65 and "system components preferably have an interface to the agent in order that the agent can control the materials and guide the student in a uniform manner" C48 L 10-15 and "Generally, agent behavior ... several instructional sessions" C58 L10-45 and "logic to sequence the display according to student input" C7:1-12 and "Error responses include retry policies and selection of remediation paths. Remediation can be item sequencing options given on the basis of retry outcome" C32 L50-60 and "in case of error, the student can request, or automatically be presented with, appropriate repeat, review, or remediation materials" C11:25-45; Also see Fig. 8 and Fig. 9); and

- o Delivering the cohesive unit of feedback (C5-63 especially "in case of ... or remediation materials" C11 L35-45 and "The lesson coaching parameters are used by the agent to provide feedback to the instructional materials so that their presentation can be individualized according to student performance" C49 L20-45 and "Instructional sequencing is appropriate for interactive instruction with feedback. Homework sequencing can include a fixed order; a student defined order; a student defined order assisted by teacher prioritization into such priority groups as essential, important, or optional; and sequencing defined by

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performance to criterion on individual item subtypes" C32 L15-30; Table 2B in C41-42); and

- (e) Managing the presentation of information around specific requirements designed to achieve the goal (C5-63 especially "The lesson coaching parameters are used by the agent to provide feedback to the instructional materials so that their presentation can be individualized according to student performance" C49 L20-55 and "In order that the student's agent can act generally to provide student guidance and control material presentation in a manner individualized to the student's pedagogic characteristics, it is preferable that an embodiment of this invention use an instructional materials interface standard (herein called "IMIS"). According to IMIS, it is preferable that the detailed content generated by the notations and passed in messages to the agent be structured in a standard fashion according to the particular educational paradigm adopted by the materials and independent of the particular content of the materials" C52 L25-45).

Claim 2:

Cook discloses wherein the requirements include direct linkages to remedial educational presentations (C5-63 especially "the student can request, or automatically be presented with, appropriate repeat, review, or remediation materials" C11 L35-45).

Claim 3:

Cook discloses wherein the requirements include limits that prohibit access to sections of the presentation until the goal is obtained (C5-63 "student selection of an icon presented in the system area requesting the ES to start the function represented, it turn checks with schedule/calendar 607 whether the student is currently permitted to access this function before continuing with OS task creation. The system manager also presents whatever reward graphics and animation the student has been granted access" C34 L15-30 and "requiring the student to perform background reading or remediation. Important initiative parameters include the scheduling values of task priority value and

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deadline. If the priority and date are not both "off", those tasks with greater priority and earlier deadline are automatically scheduled for the student" C29 L15-30 and "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips library, that the student finds pleasing. The agent can further make reward graphics available on the student's screen for a period of time" C14 L15-30; *Examiner notes that it is clear that rewards will not be presented to the student unless they are earned by exceeding a goal based on the level of performance for a task.*).

Claim 4:

- 10 Cook discloses including limiting access to sections of the presentation until appropriate prerequisites are completed (C5-63 especially "the student can advance to the next item, lesson, or unit upon successful completion of the present item, lesson, or unit" C11 L25-45 and "The schedule/calendar tool can be directed by the teacher to permit the student a range of scheduling initiatives. These initiatives can range from permitting the student
- 15 freedom to schedule materials as desired to requiring the schedule/calendar tool to enforce a fixed order of student activities" C44 L30-45 and "student selection of an icon presented in the system area requesting the ES to start the function represented, it turn checks with schedule/calendar 607 whether the student is currently permitted to access this function before continuing with OS task creation. The system manager also
- 20 presents whatever reward graphics and animation the student has been granted access" C34 L15-30 and "requiring the student to perform background reading or remediation. Important initiative parameters include the scheduling values of task priority value and deadline. If the priority and date are not both "off", those tasks with greater priority and earlier deadline are automatically scheduled for the student" C29 L15-30;
- 25 *Examiner notes that a fixed order of student activities is indicative of prerequisites that must be completes before a student may access later scheduled tasks).*

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Claim 5:

Cook discloses including providing feedback that identifies a navigation path for a student based on the goal (page 69, lines 23-35, "the designer defines standards for the completeness of requested inputs and actions ... include retry policies and selection of remediation paths. Remediation can be item sequencing options given on the basis of retry outcome" C32 L45-60)

Claim 6:

Cook discloses including utilizing a student identifier to control access to appropriate presentation material (C5-63 especially "The executive software verifies student identity and access authority, establishes communications sessions with the system servers as required during client start-up, downloads from the student object database the student data object corresponding to the student in session at this client system, downloads instructional materials scheduled for this student" C17 L15-40 and "5.2.4 ABI System Security ... possible security violations" C22 L30-C23 L20 and "FIGS. 10A, 10B and ... past agent behaviors" C48 L30-60)

Claim 9:

Cook discloses including storing a central location for one or more students that tracks the one or more students progress in the presentation (C5-63 especially "In an exemplary embodiment, this data subtype includes standard and criteria data, usually set by the school system, which include objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data" C49 L1-20 and "The executive software verifies student identity and access authority, establishes communications sessions with the system servers as required during client start-up, downloads from the student object database the student data object corresponding to the student in session at this client system, downloads instructional materials scheduled for this student" C17 L15-40 and "in order to track the student progress and to generate reports concerning the students and materials in the ABI system" C15 L10-25).

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Claims 10-15 and 18:

Claims 10-15 and 18 are rejected on the same grounds as above claims 1-6 and 9 respectively.

Claim 19:

Claim 19 is rejected on the same grounds as claim 1 above.

Response to Arguments

Applicant's arguments filed 5/10/2006 have been fully considered but they are not persuasive. In re pages 6-8, Applicant puts forth amendments to claim 1 to include the features of "selecting a plurality of the active pieces of remediation for delivery" and "assembling the plurality of the active pieces of remediation into a cohesive unit of

feedback". Applicant argues:

However, Cook fails to even suggest the above features. For example, fig. 4 of Cook merely displays text 506 "To add fractions, first you need common denominators" in response to the student answering item presentation 503 ($4/9 + 3/11 = ?$) by selecting wrong input button 504 ($4/9 + 3/11 = 7/20$). Cook merely provides text corresponding to a single rule (corresponding to a single piece of remediation) being violated by the student's answer. However, there are other rules (corresponding to other pieces of remediation) that the student must be satisfy in order to correctly answer the question. For example, the student also must correctly adjust the numerators, The student may do so by cross multiplying the numerators and the denominators . and by multiplying the denominators together. While the above scenario illustrates the benefits of including several pieces of remediation within a cohesive unit of feedback to the student, Cook fails to even suggest a plurality of pieces of remediation.

Applicant's argument is not persuasive. Cook clearly describes identifying a plurality of pieces of remediation in that remediation sequences or paths can be selected or defined based on a student's responses compared to the student's historic and current performance (C5-63 especially, for example, "Error responses include retry policies and selection of remediation paths. Remediation can be item sequencing options given on the basis of retry outcome" C32 L50-60 and "remediation" C28:50-60) which meets the limitation of "selecting a plurality of the active pieces of remediation for delivery". Cook also clearly describes creating a coherent unit of feedback from the plurality of pieces of remediation (C5-63 especially, for example, "student can request, or automatically be presented with, appropriate repeat, review, or remediation materials" C11:25-45 and "logic to sequence the display according to student input" C7:1-12 and "selection of remediation paths. Remediation can be item sequencing options given on the basis of retry outcome" C32 L50-60) which meets the limitation of "assembling the plurality of the active pieces of remediation into a cohesive unit of feedback". Cook then also describes delivering the cohesive unit of feedback to the student (C5-63 especially, for example, "in case of ...

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or remediation materials" C11 L35-45 and "The lesson coaching parameters are used by the agent to provide feedback to the instructional materials so that their presentation can be individualized according to student performance" C49 L20-45). It is clear that Cook anticipates selecting from available and appropriate remediation materials to create a remediation path or sequence based on the performance of a student. Cook further anticipates delivering that path or sequence, made up from the selected plurality of available and appropriate remediation materials, to the student. Therefore, the rejection of independent claims 1, 10, and 19 and dependant claims 2-6, 9, 11-15, and 18 as being anticipated under 35 U.S.C. §102 by Cook (USPN 5,727,950) stands.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-8 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cook (USPN 5,727,950) in further view of Cook₂ (W.I.P.O. International Publication Number WO 97/44766).

Claim 7:

Cook teaches providing a level of granularity for restrictive access to presentation material (C5-63 especially "5.2.4 ABI System Security ... possible security violations" C22 L30-C23 L20 and "FIGS. 10A, 10B and ... past agent behaviors" C48 L30-60).

Cook fails to teach each item in the presentation is assigned an identifier.

Cook₂ discloses wherein each item in the presentation is assigned an identifier (pages 7-130 especially "To facilitate metering...elements is metered" page 48 L28-33) to provide a level of granularity for restrictive access to presentation material (pages 7-130 especially "5.2.4 ABI System Security ... possible security violations" page 43 L18-pages 44 L32 and "Figs. 10A, 10B and ... past agent behaviors" page 99 L12-33).

5 Claim 8:

*Cook*₂ discloses wherein each activity associated with a presentation is identified to provide a level of granularity for restrictive access to the activity (pages 7-130 especially “before allowing downloaded ... common server systems” page 35 L2-10 and “If they do...caught and rejected” page 46 L1-12 and “this data includes...by the student” page 90 L11-35 and “The student data...occurring too frequently” page 102 L14-37).

Cook and *Cook₂* are from the same field of endeavor: agent based instructional systems.

At the time of the invention it would have been obvious to use the identifiers of *Cook*₂ in the invention of *Cook*
15 exactly as is done in *Cook*₂ since *Cook*₂ is a further disclosure of the same invention by the same inventive entity
as *Cook*.

Claims 16 and 17:

Claims 16 and 17 are rejected on the same grounds as above claims 7 and 8 respectively.

20 *Response to Arguments*

Applicant's arguments filed 5/10/2006 have been fully considered but they are not persuasive. In re pages 8,

Applicant argues:

25 Claims 7-8 and 16-17 depend from claims 1 and 10, respectively. Moreover, Cook₂ does not remedy the deficiencies of Cook. Thus, claims 7-8 and 16-17 are patentable for at least the above reasons. Applicant requests reconsideration of claims 7-8 and 16-17.

Applicant's argument is not persuasive since the rejection of claims 1-6, 9-15, and 18-19 as being anticipated under 35 U.S.C. §102 has been maintained. Therefore, claims 7-8 and 16-17 remain rejected under 35 U.S.C. §103 as being unpatentable over *Cook* (USPN 5,727,950) in further view of *Cook*₂ (W.I.P.O. International Publication Number WO 97/44766).

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- Ho (USPN 6,120,300)
- L'Allier (USPN 6,039,575)
- Tatsuoka (USPN 5,855,011)


Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Buss whose telephone number is 571-272-5831. The examiner can normally be reached on M-F 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin Buss
Examiner
Art Unit 2129


DAVID VINCENT
SUPERVISORY PATENT EXAMINER

BB